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PROCEEDINGS.

NOVEMBER 3D, 1859.—In the absence of the President, Archibald Russell, Esq., 2d Vice-President took the chair.

The following gentlemen were elected resident-members of the Society: William Henry Arnoux, Rev. William Alvin Bartlett, Henry Beekman Graham, Robert M. C. Graham, George W. Hodges, John B. Ireland, James O. Noyes, M. D., and Frederick S. Stalknecht.

William B. Ogden, of Chicago, was elected a non-resident member.

The Foreign Corresponding Secretary reported the receipt of a large number of letters from foreign societies, relating to exchanges of publications and documents, and read a communication,(dated "The Hague, June 16th, 1859") from the Central Commission of Statistics of Holland, enclosing their act of organization, and soliciting the co-operation of the Society. The Foreign Corresponding Secretary was directed to prepare and forward a suitable reply.

The Librarian reported the accessions to the Library, since the last meeting, to be as follows: By donation, 290 volumes, 1,050 pamphlets, and 34 maps and prints; and by purchase, 201 volumes and one globe. Among the more important works added to the library were Ritter's *Asien* in 22 volumes, Drake's Voyages, Dampier's Voyages, a set of the Annual of the Imperial Geological Institute of Vienna, the Annals of Congress in 42 volumes, and a complete collection of the public documents of Minnesota since the formation of the territorial government.

The Rev. Dr. Thompson informed the Society that a letter had been received from Carl Ritter asking the aid of the Society in the foundation of a Humboldt-Stiftung at Berlin. Dr. Thompson remarked that scarcely had the communication been received, when the mails announced the death of the venerable author. He moved that the Committee on Topics and Proceedings be instructed to take measures to enable the Society to testify its appreciation of the immense services rendered through a long life time to geographical science by Carl Ritter.

The motion was unanimously adopted.

Mr. Disturnell presented to the Society two maps, one of the Government Map of the first United States Arctic Expedition, upon which he had traced the route pursued by Captain M'Clintock in the *Fox;* the other an official map of Arizona, showing the extent of the Mesilla Valley, lately purchased from Mexico.

The Secretary of the Council then read a paper upon "*The Present Condition of Iceland,*" translated from the Icelandic, and giving a succinct account of the population, government, commercial resources and natural production of the island.

The reading of the paper was followed by a conversation upon the subject, in which the Chair, Dr. Thompson, Mr. Prime, and others took part. After which the thanks of the Society were voted to the author and translator of the paper. *Adjourned.*

XUM

DEPARTMENT OF GEOGRAPHY.

NORTH AMERICAN FISHERIES.*

The great fisheries of Newfoundland, Canso and parts of the Gulf of St. Lawrence were discovered by Sebastian Cabot, the earliest voyageur to the northern coasts of America, in the reign of Henry VII., 1497. The reports of Cabot were soon spread throughout Europe, and fishing vessels from different nations began to resort to the Banks of Newfoundland for annual supplies of fish. In the reign of Queen Elizabeth of England, Sir Humphry Gilbert took position of and claimed sovereignty over Newfoundland, whose few and scattered immigrants acknowledged his right.

The French had long disputed the British claim to the fishery of Canso, a narrow strait between Nova Scotia and the Island of Cape Breton, until 1749, when the English conquered the island, and captured Louisburg, the stronghold of France in America.

From this period British subjects occupied the banks and shoals skirting the coasts of Nova Scotia; but the Banks of Newfoundland were common to all nations. The territory of Labrador was also claimed by France; but after the conquest of Canada, the whole country was ceded to England, excepting two small islands, St. Pierre's and Miquelon on the south side of Newfoundland. Subsequently England ceded to France the exclusive right to fish from Cape Ray to Cape St. John.

After the United States had gained their independence, and the peace of 1783 was concluded, the treaty between the two countries stipulated the right of the Americans "to take fish on the Grand Bank and all other banks of Newfoundland, in the Gulf of St. Lawrence and all other places in the sea, where the inhabitants of both countries had been used before, and the liberty to fish on such parts of the coast of Newfoundland as British fishermen used, (but not to dry, or cure fish thereon,) and on the coasts, bays and creeks of all other British dominions in America."

The war of 1812 abrogated all former treaties. The Convention of 1818 secured to the United States the right to fish all along the coasts and harbors of British North America; but not within three marine miles of the shore, and to cure fish in such bays and harbors as were not inhabited, and also to enter any bay or harbor for shelter, to repair damages, or to obtain provisions, or water.

The treaties between Great Britain and the United States were as difficult to defend as they were to observe. The framers of those treaties were unacquainted with the practical working of their schemes; hence frequent misunderstandings arose between the two countries, even threatening war. The American fisherman was not conversant with nice logical distinctions. He knew of no game laws regarding the fishes of the sea. Indeed, the ocean was considered to be the high way of all nations, and that nature offered her bounties freely to all and recognized no national boundaries.

Notwithstanding the decrees of the Convention of 1818, vessels from the eastern States would visit the remote harbors of the colonies and barter for codfish, and an illicit trade was carried on which called forth the interference of the local authorities of the British provinces, and an armed force for the protection of the fisheries. Sometimes American vessels were seized within the limits of three miles from the shore, and condemned, and their owners ruined. National ships of war were also sent to cruize along the coasts—to defend the fisheries on one side, and to protect the fishermen on the other.

This state of things continued until the years 1850 and 1851, when the principal northern coasts and islands were visited by Admiral, the Earl of Dundonald, late Commander-in-Chief on the British North American and West Indian Stations. I had the honor to accompany his lordship during the examinations of the fisheries; and also in extensive geological explorations of the shores; and I believe that it

* A paper read before the American Geographical and Statistical Society, by Abraham Gesner, M. D., F.G.S., etc., January 6, 1859.

has been through his influence and comprehensive views that a treaty of reciprocity has recently been sanctioned, whereby the American fisherman has been relieved from his former embarrassments. He is now permitted to fish where he pleases, except in the rivers, and a free trade is open between the United States and the colonies.

In my history of the Province of New Brunswick I advocated a close adherence to the then existing treaties, but a laborious inspection of the fisheries, and a better acquaintance with the persons engaged in them, have led me to abandon my former views and advocate a more practical and generous policy.

There are obstacles to the study of the natural history of fishes that cannot be overcome. The haunts and habits of those that inhabit the deep sea cannot be seen; and it is only by examining the contents of their stomachs that we can learn any thing regarding the nature of their food. Many kinds cannot be taken either by hook, or net; others are rarely seen, and doubtless some inhabit depths almost unfathomable.

It has long been believed, and the error still continues, that deep sea fisheries, like those of bays and rivers whose shores are inhabited, are constantly on the decline, from the myriads of fish annually captured. This error has been the foundation of national disputes, and especially as regards the Grand Bank of Newfoundland.

It is certain that the shore fisheries of inhabited districts decline; and some have so far fallen off that they are not worth pursuing. But this fact has arisen as one of the effects of civilization. Damming the streams for the erection of saw mills, which prevent the fish from ascendency in the spawning season—the saw dust of the mills; the passage of steamboats and other vessels; the poisonous matter poured into the water from cities, towns and villages, and other causes destroy the fisheries of estuaries and rivers far more rapidly than the hook, net, or seine of the fisherman. Now none of these causes act upon the living mantle of the ocean's bed. The cod, hallibut, hake, cusk and other fishes that live at fifty and a hundred fathoms beneath the surface of the sea, and many miles from the dry land, are beyond the reach of such influences, and the vast numbers captured are annually restored by their miraculous powers of reproduction. I have estimated the numbers of *ova* found in each of the following fishes as follows: Codfish, 62,000; herring, 52,000; mackerel, 72,000. So far as history and statistics inform us the fisheries of the Banks of Newfoundland, and other shoals along the northern arm of this continent, have not fallen off during the last 200 years. It is a wise provision of the Creator that the great victualling office of the world shall be well supplied. Even the playful mackarel and herring, which pay yearly visits to the shores, maintain their numbers against fleets of fishermen; the latter in his season covering thousands of miles of coast with *ova*.

The food upon which fishes subsist forms an interesting inquiry. I cannot stop here to discuss this part of my subject, further than to remark that multitudes of fishes die every year. Yet in sailing over the surface of the ocean a dead fish is seldom seen, except in the vicinity of some submarine volcano, or sulphurous, or hot spring. The weak and dead are devoured by flesheating fishes, who, in their turn, become the prey of their successors. Portions of the bottom of the shallowist parts of the ocean, if not the deepest abysses, are covered with vast tracts of sea weeds of great growth. These plateaus and submarine pastures afford food for some kinds of the finny tribes. Other parts abound in shell fish, crustacea, &c. These sustain other broods. Great numbers of fishes are fed by the waters of the sea, and the sediment poured into it by every shower that washes the dry land. Each of this class is a living chemical laboratory, assimilating the oxygen and hydrogen of the water, and the carbon and nitrogen of its impurities, to the formation of bone, blood, flesh, and scales. Floating fields of sea weeds abound in small

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fishes, and the dolphin glides from wave to wave in quest of the floating nautilus or sun-fish. The entire surface of the ocean teems with life—and, like the stormy petrel, some kinds of fishes are provided with strainers in their mouths by which they separate the animalcula from the watery element. The gay butterfly, moth, and many land insects supply food for salmon, trout, and other inhabitants of lakes and rivers. A closer examination, than the one I have thus hinted at, will convince any student in Natural History that nature has provided abundantly for all the inhabitants of the mighty deep.

DIFFERENCE BETWEEN NORTH AND SOUTH AMERICAN CONTINENTS.

It might appear at first sight that the physical features of Northern and Southern America do not materially differ. But without reference to the great difference of their climates, they have dissimilarities which affect animal life whether it be on the land or in the water. The southern continent abounds in lofty mountains and rivers of the greatest magnitude. Its terrestial formations are eminently volcanic, and in certain parallels of latitude, the ocean is studed with coral islands. The mountains of the north are not remarkable for their elevation, and volcanic rocks are less frequent. Its rivers are chiefly of the third and fifth classes, while its bays and lakes are the largest in the world. The positions of the land and water influence climates far more than is generally understood; and the geological formations of every country, not only effect its mining and agricultural industry, but also the vegetable and animal creations both of the sea and of the land, and even the physiology of man himself.

The Gulf Stream, passing along our coast, greatly ameliorates the climates from Cape Hatteras to Greenland. The temperature of this mighty oceanic current, as it passes through the Bahama Strait, is 68° Fah. When it reaches the Grand Bank of Newfoundland its temperature is 46° on an average, and 6° higher than the surrounding ocean. I found its temperature to shade off as the shores of Newfoundland were approached. The condensation of the warm and humid atmosphere that is spread over that Atlantic current is the cause of those dense and dreary fogs which in the early part of summer hover over all the shores from the State of Maine to the remotest parts of Labrador and southern parts of Greenland.

I have no doubt whatever that George's Bank, Isle of Sable, the Bank of Newfoundland, and other shoals of less magnitude, are all the gifts of the Mexican current. I have taken broken shells from the deep sea lead, such as the *cyprea*, and others, whose genera cannot be found upon the shores of Northern America; and floating fields of sea weed and drift equally attest the transporting power of that mighty stream.

DESCRIPTION OF NORTH AMERICAN FISHERIES.

The North American fisheries commence at about 40° North latitude, or in the latitude of New York, and extend thence in a northerly direction to the Polar Sea. It is probable that the extreme north is open water, whose frigidity is modified by the positions of the adjacent continents. The appearance of droves of whales coming down from the polar regions at certain periods favors this opinion. Some fishes may be said to be common to the north and south, or inhabitants of the temperate regions. The shad, tautog, or black fish, and many others, will fall under this class.

It will be recollected that the interior lands of the northern continent, during the winter, are covered with snow, and the rivers are coated with crystal mantels of ice. The melting of this snow and ice produces great changes in the heat of the atmosphere, and also lowers the temperature of that part of the ocean that washes the coasts. The spring season sends down vast quantities of fresh water, and carries forward a great amount of partially decomposed vegetable and animal matter which supplies food for fishes. This I believe to be one cause by which the inhabitants of the sea are led instinctively into the shallow bays and rivers at the close of spring and the beginning of summer

From George's Bank to Newfoundland, fish are most abundant in the spring, when they always approach the shores and run into shallow water. This fact, however, may arise in part from the necessity which is supposed to exist in reference to depositing their *ova*. As soon as summer appears, codfish, halibut and the early immigrant herring withdraw from the vicinity of the land to deep water, and dogfish, haddock, pollock and others supply their places. I found this exchange in the Bay of Fundy and some of the estuaries of New Brunswick took place in the course of a single week, and it is gradually extended from latitude 40° to Newfoundland. Farther north, and in districts of almost perpetual ice, it was not observed.

Great numbers of shad are secured yearly in some of the rivers of the American coasts. This is one of the fishes that occupies a medium position between the North and the South. He appears in Charleston, and still farther South, in January, at Norfolk in February, in the Hudson at New York in March, in Massachusetts in April and May, at the entrance of the Bay of Fundy in June, and at the extremity of that Bay in July. He always frequents muddy rivers, where the temperature of the water is from 50° to 60°. He feeds upon schrimp and worms, and sometimes upon a soft mossy sea weed. The shad of the Hudson are superior to those of more Southern rivers. The finest I have ever seen were those of St. Mary's Bay in Nova Scotia. New York receives its full share of this delicious fish, and, like the strawberries and other fruits in whatever State they are gathered, they come to our markets. I do not undertake to say that northern fishes may not be found beyond the limits I have stated. Their kinds shade off both North and South; but wherever they are caught out of their true latitudes, they are generally more or less lean.

In my descriptions, I will call the several kinds of fish, to be noticed, by their common and not by their scientific names. For commercial purposes the latter are more convenient.

Starting then from New York, in a northerly direction, we pass the Mediterranean or Sound and the outer shore of Long Island, and farther on, the entire seaboard of New England. Great quantities of fish are annually taken on these shores and in the adjacent waters—Cod, halibut, pollock, haddock, shad, mackerel, etc. These afford a vast amount of food to the inhabitants and luxuries for the table of the citizen. Great numbers of menhaden are caught by the people of Long Island. Thousands of cart-loads are used for manure. Again, the fish are boiled by steam—the oil extracted, and the residuum converted into what is called artificial guano.

The numbers and value of the fish taken on the shores, and in the bays and rivers, can never be accurately ascertained—as they are taken by thousands of individuals, and devoted to home consumption.

The fisheries of the New England States have ever been considered of great value. The war of the Revolution checked their progress; but from 1786 to 1790 Massachusetts alone sent annually to the deep sea fisheries no less than 500 vessels and 3,000 seamen. These numbers continued to increase until the embargo of 1808 and the war of 1812. The latter almost destroyed the offshore fishing, and the bays and rivers were resorted to. The bounties paid by the United States on fish and fishing vessels have proved to be a wholesome stimulus to this branch of industry.

The State of Maine has some excellent inshore fisheries. Passamaquoddy, the eastern boundary of the State, exports cod, pollock, haddock and herrings, and mackerel are taken in their season. Between Campo Bello and Eastport, where the bay does not exceed three miles in breadth, at certain times of tide, the boats of the Americans and provincials mingle together in one common fleet. So plentiful are the cod and pollock that before the bait reaches the bottom it is seized, and every boatman draws away with all his might until his boat is loaded, or the fish on the turn of the tide depart. An excellent herring is caught in

Passamaquoddy Bay. They are generally taken in weirs, and smoked for New York and other markets. Maine also sends a number of vessels to George's Bank, Newfoundland and coast of Labrador.

GRAND MANAN.

The Island of Grand Manan is about 20 miles long and 8 miles wide. It is situated about 25 miles from Eastport. Its northern side is an elevated and almost perpendicular mass of trap rock, containing zeolites. Southward, the land slopes down to the sea. At its southwestern extremity the trap rocks extend out beneath the water, and a lighthouse and fog-bell give warning to approaching vessels. Over the submarine ledges, the tide runs rapidly and breaks into wreaths of foam. This is a favorite spot for pollock, of which great numbers are taken with the hook and line. There are several large fishing establishments on the island, and the harbors at its eastern extremity afford shelter for boats and small craft.

On the western extremity of Grand Manan, sea-gulls congregate in vast numbers. The trees of a large tract of forest are occupied by their nests. Clouds of those birds hover over the wood, and the cries of their young in the month of July, and other peculiarities, drew forth an admirable description from the pen of the celebrated Audibon, during one of his northern tours. Grand Manan, as well as the Island of Campo Bello, has been the resort of money diggers. Deep pits have been dug at many places to find the buried treasures of the notorious Captain Kid.

GEORGE'S SHOAL OR GEORGE'S BANK.

The most valuable deep sea fishery on this part of the American coast is the shoal called George's Bank. Its length may be estimated at 100 miles, and its breadth 40 miles, with a depth of water varying from 10 to 60 fathoms. Its summit is dry at high spring tides. The entire bank abounds in fine cod, haddock, halibut, pollock, and their attendants. At certain seasons shoals of mackerel and herring appear at the surface of the water. The deep sea fish may be taken at all times of the year.

The fishes I have named are taken in great numbers to supply the fish markets of New York and Boston. Numbers of small shallops and schooners frequent the Banks, and are seen tossing about in very tempestuous weather. The holds of these vessels are divided into compartments, and into them the sea is allowed to flow freely. Into these watery cells the fish are thrown the instant they are disengaged from the hooks. As soon as a cargo is obtained the vessel runs for New York, or some other port, where the fish are disposed of, and may be often seen alive in our markets. Such as are intended for more southern ports are packed in ice.

FISHERIES OF THE BAY OF FUNDY.

Of the fisheries of the Bay of Fundy my limits compel me to speak generally. There are but few miles of its shores that I have not visited, and therefore I will only notice some of their peculiarities. The elevation and the rapidity of the tides in this bay are well known. In a calm day a vessel will here drift 60 miles in one direction on the ebb tide, and be carried back the same 60 miles on the flood tide. In every part of this capacious bay the fishes, I have already noticed, are abundant in their seasons, and salmon frequent nearly all the rivers. St. John, the principal seaport of New Brunswick, exported, in 1850, 40,000 salmon, 14,000 barrels of alewives, and 1,000 barrels of shad. The total exports of fish for that year, the produce of the Bay of Fundy fisheries, is stated to have been to the value of $250,000. This sum is less than the value of the fish consumed by the inhabitants.

At the eastern extremity of Minas Basin, and the mouth of the Shubenacadie river, the tide rises no less than 75 feet. At low water the sea is withdrawn more than 20 miles from the point of its highest elevation, and by its rapid rise on the flood tide it forms a mighty tidal wave from 4 to 6 feet high. This wave, or *bore*, as it is called, makes forward over the mud flats with the noise of distant thunder, tearing up the sand banks formed by the previous ebb, and overwhelming every boat or ves-

sel that may lie exposed to its fury. The very front of this wave is occupied by the shad which are rapidly carried onwards to the rivers. In the Peticodiac River boats sometimes fish within 10 feet of the margin of the watery precipice, which at the top seems to have a backward current that prevents the boats from plunging headlong over its border. I have traveled 25 miles an hour in Indian canoes, on the top of the bore in the Shubenacadie River, and within 200 yards of its rolling front which instantly covers the mud flats and shingle beaches, with a smooth but rapid current of water.

On the north side of Minas Basin, and at a placed called Five Islands, in the county of Colchester, there is a natural fish pond. A basin of more than 100 square yards has been formed in the hard rock. At high spring tides the borders of this basin are left dry, while its centre has 4 or 5 feet of salt water. In the month of June the codfish pursue the herring close in shore, and drop into this saucer-shaped cavity. The tide withdraws and the fish are imprisoned. On one occasion I accompanied some farmers to the place. They drove down their ox carts, and, with pitchforks, transfered upwards of 400 fine codfish from the sea to the land, where they were divided by casting lots.

Small whale, known as *grampus*, are quite numerous in the Bay of Fundy. Of these none are captured, as they are said to be too shy to be approached by a whale boat; but I have seen them floating and basking in the sun, apparently asleep, and during periods of several hours.

Porpoises are also plenty. A few of these are shot by the native Micmac Indians, who value them for their oil. Whaling might, perhaps, be successfully pursued in these waters by fitting out vessels for the double purpose of whaling and codfishing.

The principal fisheries of the western part of Nova Scotia are at Digby and Yarmouth. At the former place not less than 50,000 boxes of herrings are taken in weirs annually. The fish are small in size, and when smoked and packed afford an article of export much sought for every where.

The fisheries of Yarmouth and adjacent bays are also valuable. A few years ago a vast shoal of mackerel appeared in these waters; but they were considered too small in size to be cured and shipped. The next year the fish appeared again with increased dimensions. The fishermen concluded that they would wait and make preparations for the third year. The third season brought back to them immense numbers of the fish; but, to their astonishment, they were of a smaller size than ever. This is evidence that the mackerel does not visit the same shore every year.

Following along the shores and bays of the southern side of Nova Scotia, great numbers of the finny tribes are captured; and a number of small vessels resort to the banks and to Labrador from that quarter. In general, the inshore fisheries are much neglected. The rivers abound in alewives in the month of June, and there is fine salmon fishing in Gold River and a few other rapid streams.

Halifax, the principal capital of the province of Nova Scotia, exports to Europe and the United States great quantities of dry and pickled fish, and also salmon laid down in ice. That city is said to have the finest fish market in the world. I have seen fine codfish and halibut sold at the wharves for two pence per pound. During the autumnal months fine fat mackerel in great numbers appear in the harbor and its spacious basin. At Herring Cove the fishery is pursued with profit, and vessels make regular trips to the Gulf of St. Lawrence and coast of Labrador.

The coast from Halifax to the Gut of Canseau is but thinly populated, and the industry of the inhabitants is divided between agricultural and maritime pursuits. The Strait of Canseau is about eighteen miles in length, and at its narrowest part only three quarters of a mile in breadth. This opening from the Gulf into the Atlantic has long been celebrated for its fisheries, and still continues to yield a rich harvest to the industrious fisherman. A few

years ago a shoal of mackerel threw themselves into a small cove upon the shore, near Guysborough, at the head of Chedabucto Bay. The inhabitants turned out and made an attack upon them, and in the space of twenty hours secured four thousand barrels.

The entire shores of the Gulf of St. Lawrence, Prince Edward's Island, and the Island of Cape Breton abound in the kinds of fish I have already noticed. At Arichat, Inganish, Chotic amp and other places there are extensive fishing establishments, where it is not uncommon to see ten acres of ground occupied with fish flakes covered with cod during the period of drying. Cape Breton is nearly divided by a little Mediterranean called Bras d' Or. Both cod and herring are taken here in the winter by cutting holes through the ice and lowering down the hook or the net.

The shores of Prince Edward's Island are scarcely less productive than those just mentioned. The island is very fertile, and therefore its inhabitants are chiefly devoted to agriculture. Fine salmon are caught in some of the inlets, and in the summer season trout are plenty several miles from the land and in the open sea.

The coasts of Bay St. Lawrence and Gaspe are perhaps still more valuable for their fishing resources, and they have a number of mercantile houses devoted altogether to the capture, curing and transportation of fish to the Old Country. Salmon still continues to be numerous in many of the rivers, as well as in those of Lower Canada. The streams that fall into the sea on the coast of Labrador abound in this delicious fish. In July and August they take a gaudy fly with great avidity, and angling for them becomes a laborious pleasure. Strong tackle is always necessary. Still farther north salmon are more plenty, and form no inconsiderable part of diet of the Esquimaux Indian.

The Isle of Sable is a well known, and very dangerous shoal about one hundred and sixty miles south of Cape Breton, and in the track of vessels bound from this county to Europe. Its summit on an average is not more than ten feet above the level of the ocean. It bears a few low bushes, among which wild horses, known as Isle of Sable ponies, roam at large. These horses were originally carried to the island to supply food for shipwrecked seamen and the lighthouse keepers, who sometimes, for long periods, are cut off from the rest of the world. From the conflicting currents of the Gulf of St. Lawrence and the Gulf Stream the shoals about the island are constantly shifting. Fish are abundant on these banks. Still they are not much frequented by fishermen from the danger apprehended of running their vessels aground.

The Island of Newfoundland is nearly four hundred miles in length, and from fifty to two hundred miles in breadth. The Grand Banks of Newfoundland may be estimated to be 700 miles long, and 200 miles broad. The soundings vary from ten to one hundred fathoms. The bottom is not rock as some have supposed; but chiefly sand, sand and shells, and mud. The sailor knows at once when he is over them from the altered appearance of the water. These vast shoals afford the greatest fisheries in the world, and they are frequented three quarters of the year by ships from every part of Europe, and the northern ports of America. Not less than 2,000 ships anchor and fish upon these banks every season, exclusive of smaller vessels from the British provinces and the United States.

St. Pierre's and Miquelon afford the French great facilities for pursuing their ancient occupation at Newfoundland. Those two little islands supply bait and surface for drying cod. From May to November, in crossing the Banks, numbers of foreign vessels may be seen at anchor out in the open sea. They usually send down their upper masts and yards, and haul every rope tight. Here they roll from side to side from month to month, ever baiting and hauling in cod and other deep sea fishes. Few merchant vessels pass the Banks without "*heaving-to* for fish."

Within a few past years, the French, and subsequently others, have introduced a new

mode of fishing. From the stern of the ship they carry out a long line called a bullow. Upon this line, or hawser, a great number of short snoods or cords are fastened, each carrying a baited hook. The bullow having been duly baited, is lowered away and stretched along the bottom of the sea. Several of these destructive lines are sent out from one ship, and hauled in every twenty-four hours, sometimes by hand, and occasionally by a capstan. Frequently a thousand fish are taken at a single haul. It is surprising to see the numbers of uncaptured fish that will rise to the surface of the water at the hauling in of the bullows. Similar fisheries to those I have described extend from Newfoundland along the coast of Labrador to Hudson's Bay, Davis's Strait and Greenland. At those places the fishing season is comparatively short from the early and intense cold. They are now a kind of storehouse for future generations. Vessels laden with frozen herrings arrive at Halifax from Labrador during the winter, and codfish perfectly brittle from the frost supply the market at St. John, New Brunswick, in the months of January and February.

There are no less than three variaties of whales in the the Gulf of St. Lawrence. The first is the large Greenland whale of a color almost black, and sometimes eighty feet in length. The second is smaller in size, and generally known as the "hump-back." Lastly, the narwhal is from eighteen to thirty feet in length, and so black that it is commonly called the black fish. It is armed with a long ivory tusk on the left side of the mouth; but appears quite harmless. I found a narwhal stranded in a remote creek on the Island of Cape Breton. It was eighteen and a half feet in length, and would probably weigh six tons.

The whale fishery of the Gulf and the coast of Labrador was first undertaken by the people of Nantucket. At present it is pursued to a small extent by vessels from Newfoundland and Gaspe; but might, under proper management, be made very profitable to vessels from the United States.

Next in importance to the cod and herring fisheries of these northern latitudes are the seal fisheries. In the latter part of March and about the first of April vessels are fitted out at Newfoundland, and on some of the shores of Nova Scotia and New Brunswick, and are "off for the ice." They are from 40 to 80 tons burthen, with crews of 15 or 20 men each. They seek some opening in the ice floes, running into them until they are completely ice bound. With saws and other appliances the crews cut away the ice, and penetrate as far as possible into its solid masses. Here for a short time they remain at rest, waiting the opening of a "seal meadow." Often, after a long and dreary night, the morning discovers to them thousands of young seals, not larger than kittens, scattered over the ice in all directions. The sealing crew will wait sometimes a fortnight, or three weeks, for the young seals to grow, or until they are as large as ordinary sized dogs. They then embark upon the ice with small boats, or punts, and with clubs and muskets commence the work of death, and stripping the pelts with the fat from the young seals, they transport them to their vessel to be afterwards drained for the oil. An old sealer does not believe that these young seals are ever visited by their dams; but says, uniformly, that they feed upon ice alone. Indeed, it is remarkable how few old seals are seen among the ice where the young ones are so numerous. Among the few and scattered seniors of the oily race I have seen the hooded seal, which has a kind of moveable cap on his head, capable of being drawn down over the eye. The countenances of this variety of the *phoca* tribe are most singularly grave and amusing. Nothing can exceed the forlorn and dreary condition of a sealer in the ice during a storm, and in the night, when ever and anon his vessel is in danger of being crushed between the ice floes, from which there is no escape. Still thousands of fishermen venture on these perilous voyages. Seals are also taken in strong nets in some of the small inlets of Labrador.

While speaking of seals, I may mention the

walrus, an animal of great dimensions. They are usually shy. Nevertheless, I have known an instance of a boy approaching one very closely almost every day. At a place called Cascumpee, near the northern extremity of Prince Edward's Island, a few years ago, a drove of walruses were driven ashore by the pressure of the ice. They attempted to cross a narrow neck of land, when, being discovered, they were attacked by the few inhabitants in that quarter, and a number of them were killed. I was at the place since, and the number of walrus bones on the ground attest the truth of the story.

A single sealing vessel will frequently capture 5,000 seals in a month, which is considered and called a good fare. The numbers taken by vessels fitted out at Newfoundland amount to 500,000 annually.

The value of the fisheries, to which I have adverted, to this country can scarcely be overestimated. France has long viewed the fisheries of Newfoundland as the nursery of her navy, and she has 16,000 men engaged in this employment. Newfoundland sends 10,000 men annually to the seal fishery, and Great Britain has not less than 50,000 sailors upon the shores I have described, engaged in the fisheries. It is to this employment also that the United States would look in the painful event of war, for seamen to man her fleets. At the present time the fishermen of the United States maintain a decided advantage over the fisherman of the provinces in the bounties he receives upon the produce of his industry. The American is, I believe, the best fisherman in the world. The occupation is natural to him, and affords scope for his industry and ingenuity.

In conclusion, there is evidently much to be done in aid of this class of people. The fisherman should be provided with the best charts, and all those philosophical instruments that give indications of the winds and weather. He might also receive much advantage from a better knowledge of the Natural History of fishes. Added to these lighthouses and fog-bells upon dangerous shoals, and upon remote capes and headlands, would guide him in the perils of the storm.

JOURNEY FROM NAGASAKI TO JEDDO.

The following which appeared in the *Java Courant*, of the 5th December, 1858, describes the official journey of the Dutch Commissioner in Japan, from Nagasaki to the capital, and presents so terse and clever a portraiture of social life in this little-known nation that we have considered it worthy of preservation in the JOURNAL. Our readers will find in it much that is valuable in geography, natural history, industrial economy, and ethics; and, moreover, it is a pleasantly written and interesting article, which will attract more than usual attention:

From Nagasaki the route lay across Kiu-Siu to Kokura, from thence across the Strait Van de Capallen to Semenoseki, afterwards in a Japanese junk through the inland sea to Hioge, and from thence again by land to Osaka, and by Kiota (Miaca) to Jeddo.

The whole journey was a state procession. In each town or village the Commissioner on his arrival was met by the local authorities, who saluted him by bowing to the ground. Persons belonging to the cortege of the Commissioners—which was joined by each landholder on entering his ground—preceded the train and ordered the people to kneel, which was generally done, even by persons at a considerable distance from the road employed in the fields. These marks of honor were repeated along the whole route.

In most places the roads were cleared and swept. Two persons with brooms went before the train. In the villages every one had a broom placed before the door of his house; before some houses also lay two small heaps of sand or earth and a bucket of water, with which the road was sanded, graveled and sprinkled in honor of the Commissioner. In the evening each house was lighted up by a paper lantern. Similar marks of honor, but on a larger scale, were shown to the Commissioner whenever he passed public buildings; in front of these stood ten buckets of water in a pyramidal heap. In a number of places the fire engines were rigged out and decorated in the Japanese fashion. In front of the castles of the noblemen, Japanese officers were drawn up at the grand entrance, some with their state banners and some on horses.

In all the villages and towns, the middle of the streets through which the commander passed was kept clear, and the principal inhabitants were drawn up in rows in front of the houses; the greatest silence was observed.

The Commissioner regularly occupied the houses of the landed proprietors, which were very well furnished and comfortable; but being built in the Japanese style there was no view from them.

The population appeared prosperous, healthy and able-bodied, and even the lowest class was well dressed. When the Commissioner left Nagasaki the smallpox was very prevalent there, but at a distance of four or five miles from that town it ceased. In proportion to the population the numbers marked by smallpox were not great. Vaccination is generally known; but being too much left to the population themselves, children are not vaccinated till their seventh or eighth year. Opthalmia appears very prevalent, and many persons blind of one eye, or totally so, were noticed. Leprosy and elephantisis were occasionally met with, but they did not appear to be generally prevalent. The style of building and arrangement of the houses is very plain, and a great uniformity everywhere prevails. They are all of wood and clay; but in the country the houses were found more generally covered with tiles.

The whole country is a succession of hills and valleys, which present very picturesque scenes. The public roads, which near Nagasaki are but indifferent, were everywhere excellent, as much as possible running through the low ground, and, where the nature of the country permitted, unusually broad and overhung by large pine trees. In some places avenues were found some hours' journey in length. The bridges in general are very excellent, and frequently built of hewn stone.

Agriculture appears to occupy an important position in Japan, and, according to the Commissioner, has attained great perfection. On the outward journey the fields were sown with wheat, rye, rape seed, and different kinds of peas and beans. On the return journey, three months later, the Commissioner noticed that the same fields were planted with rice, cotton, gum, oil seed, maize, millet, and different leguminous plants. Tobacco is only found in small patches, and the leaves are dried in the houses in very small quantities. Gardens of tea are not met with, but the tea plant is found on the borders of the fields. The product of this culture does not seem to be considered as worth manufacture. The Commissioner only noticed silk growing on a very small scale. The wax tree was abundant, and many new plantations of it were seen. Gardens or vegetable cultivation were only found in the vicinity of the larger towns. The country produces very few good fruits.

The cherry tree is very abundant in Japan, and is unusually conspicuous from its beautiful blossom. Many orchards of peach trees were observed. There are also in Japan abundance of pears, apricots, plums and several kinds of apples, as well as the vine. But most of these fruits are uneateable by Europeans when uncooked, as the Japanese use all fruits in a half ripe state. The grafting of fruit trees is well known, but little practised.

The ox is plentiful and well attended to, but is only used in cultivation and for transport. Stall feeding is only followed; grazing is not to be met with. The horses are handsome, numerous and valuable. Rather more swine are reared than formerly. Fowls and ducks of different kinds are unusually fine. The wild animals consist of pigs, deer, hares, pheasants, ducks, thrushes, doves, plovers, snipes, &c.

The forests, which only exist on the higher part of the hills, consist principally of handsome pine and cedar trees. Stone quaries are worked in almost every hill. At Nippon the hills are mostly composed of sand, and the water running down from them forms peculiar sand rivers, which have already nearly filled up a number of bays. Coal mines are being more and more worked, especially in the district of Tsikusen, at Kiusiu. The Commissioner did not take notice any other mines; but on one occasion he remarked a finger post, on which was written "Road to the Silver Mine."

Sea fishing is practised on a large scale, and the coast is covered with fishing villages.

Sakki distilleries were seen in many places. Water mills are abundant, from the facilities afforded by the numerous mountain streams. From the same cause irrigation is much used in the rice cultivation.

With the exception of the residences of the higherfunctionaries and the military, each house on the side of the high road is literally either a store or workshop, wherein an almost exclusive retail native trade is carried on, which presents very few objects suitable for export. In every house one is certain to find either a spinning wheel or loom. The population is without doubt great, but it has accumulated in an unusual manner on the borders of the high roads. Scarcely is one village left before another is entered, many of which might be called towns. The number of large towns through which the Commissioner passed was very considerable. Several of these are united to each other by streets some hours journey in length.

The means of overland transport are susceptible of great improvement. Transport by

means of wheel carriage there is almost none. On the other hand, some rivers are navigated by means of small craft, and the coasting trade is uncommonly brisk, especially in the inland sea, between Kiu-Siu, Nippon and Sikokf. When the Commissioner crossed this beautiful sea it was covered with sails. Kokura, lying on Van der Capellen Strait, although a large town, has a very indifferent harbor, in consequence of which very few junks anchor there. Semeno Seki, on the other hand, is resorted to by junks from all parts of Japan—in some months by upwards of a thousand daily.

On the 23d of April the Commissioner arrived at Jeddo, where he found a large house ready for him, on the south side of the castle, prepared at the expense of the government. A number of Japanese officers were ready to receive him, who informed him that, in consequence of indisposition, the Governor of Nagasaki could not then visit him, but would do so in a few days. The American plenipotentiary was lodged on the north side of the castle in a similar manner, and immediately exchanged courtesies with the Dutch Commissioner.

All due preparations having been made, the Commissioner was, on the 13th of May, admitted to an audience with the Emperor, who was found seated on his throne, surrounded by his councillors. The Commissioner advanced, making three bows, and a conversation, which had been arranged beforehand, ensued, the Emperor speaking in the Japanese language and the Commissioner in Dutch, without the intervention of interpreters. The Commissioner then withdrew.

The Commissioner returned to Nagasaki by the same route he had formerly taken, and arrived there the 17th of August.

DEPARTMENT OF STATISTICS.

BENEVOLENT SOCIETIES.*

By the inevitable decree of a Divine Power, man is made to earn his daily bread by the sweat of his brow; and, for the few who are placed above the necessity of unceasing toil, vast numbers are compelled to labor for a bare subsistance. A manufacturer of cotton goods in Rhode Island, recently deceased, who had accumulated a fortune of nearly two millions of dollars, once informed me that for every $150 of this large capital he had had the services of a laborer for an entire year, at a rate of wages barely necessary for his daily support.

Nor does there appear to exist any reason to complain at this arrangement of human society so far as the happiness of the mass of mankind is concerned, for that same power which has doomed the human race to toil has, likewise, infused a mixture of sorrow and joy into the lot of each individual, and it not unfrequently happens that the possessor of wealth or power, with its vast accumulated responsibilities, has more real suffering than he who carelessly wends his way to his daily recurring toil.

While in health, labor is the most potent assuager of the ills of humanity; and he is as great a benefactor who provides the honest poor with the means of labor at remunerative wages, as he who erects hospitals for their sustenance when deprived of the means of taking care of themselves.

But experience teaches that disease is constantly alternating with health, and, while it deprives the individual of the physical power to earn his own livelihood, places him under the necessity of supplying new and imperious wants. The more provident of those whose daily labor yields a bare maintenance usually make provision for this condition in advance, and, by appropriating a part of their weekly earnings to this purpose, render unnecessary the patronage of those benevolent societies which are scattered broadcast over the land. I propose to invite your attention to such facts connected with these relief societies as benevolent individuals, or societies constituted like the one which I have the honor to address, have collected and arranged, and although my subject may not furnish the same field for elegant arrangement of thought or beauty of diction as some others, yet it yields to none in practical importance.

Is it not something to ascertain the chances of life and health, under diverse circumstances and varied employments? Is it not of the greatest importance to procure reliable information upon which the hard earnings thus

* Benevolent societies among the laboring classes. A paper read before the American Geographical and Statistical Society by James Wynne, M.D.

taken from daily labor to provide for inevitable but uncertain disease, shall be so husbanded as not to disappoint those, who, with no hope of future means, abstract from a small weekly allowance a sum sacred to this object. The proper disposition of this involves one of the most sacred of trusts whose influence extends far beyond the immediate recipients, and constitutes a strong bond for the good behavior and faithful citizenship of that large and worthy class who are engaged in mechanical pursuits. So long as they have confidence in beneficial sick societies, so long will they continue as a whole to appropriate a part of their earnings to their own maintenance and that of their families when disabled by accident or disease; but let this confidence be lost, and sickness will find them a charge upon the public purse, and health-careless and improvident members of society, if nothing worse.

Here is an important reason for ascertaining the foundation upon which provident societies rest; and it happens that the principles which lie at their base involve such accuracy of statistics, and such intricate mathematical calculations, as to place them beyond the reach of those more immediately concerned, and to impose the task of their elucidation upon learned men, either singly, or formed into such societies as the American Geographical and Statistical Society.

Life assurance, and government annuity offices, where the more opulent usually make provision for the future, have within the last half century done much to develope this subject so far as their own operations are concerned; but even here there is much, especially in this country, where the movements of population are not as well defined as in Europe, to be learned. I speak advisedly upon this subject, because it has been my good fortune to have been appointed by a society whose usefulness is as extensive as its vast resources, to investigate and report upon this very subject, to which report I would refer for some very curious, and, it is to be hoped, reliable information upon this subject.

It may surprise those members who have not had their attention particularly directed to vital statistics, to learn, that within the last twelve years we have had absolutely no statistics in a reliable form upon which to base an inquiry into the principles regulating the movements and probable results of beneficial societies among the laboring classes in any country. It is true that Mr. Ansell had collected and published in 1835, under the superintendence of the Society for the Diffusion of Useful Knowledge, some valuable statistics gleaned from Scotch societies; but it remained for Mr. Neison, the eminent Actuary of the Medical Invalid and General Life Office of London, in the discharge of the duties of his office, to collect and arrange the first comprehensive series of tables upon this subject, which were read before the Statistical Society of London, in March, 1845, and published in the valuable journal of the Society in that and the following year.

I particularly allude to these papers, because, prior to their appearance, it was supposed that the chances of life were altogether in favor of the privileged classes, and that length of days was far from being a concomitant with the laborious toil and exposure of the hardy artizan; but these tables demonstrate that the chances of life were better among the latter than among any other class of which the healthiest life tables give us an account.

This is a gratifying fact, and one which demonstrates how admirably in the physical, as well as the moral world, Providence has shaped his ends, so as to measure out to each his due allowance of advantages and disadvantages.

The members of benevolent societies in every country almost exclusively belong to those who are subjected to severe toil, conjoined either to an excess of temperature, vitiated air, and constrained positions, or to the inclemencies of the seasons. Their dwellings are usually of an inferior order, and in the most unwholesome parts of towns, all of which would appear to indicate a less duration or probability of life than among those habituated to the comforts and luxuries which environ the upper classes of society, and

bestow the appearance at least of superior enjoyment and immunity from disease. But, on the other hand, it must be remembered that the payment of the small weekly stipend necessary to constitute membership, presupposes a certain degree of thrift, which places the members above the reckless and improvident, who are exposed by imprudence or want of frugality, to vicissitudes of poverty and disease.

The Massachusetts registration returns, which record the average age at death of a large number of occupations for nine years and more, exhibit a wide disparity in the chances of life in different pursuits.

While these remarks hold good in regard to the recipients of the benefits of relief societies in general, it is equally true the expectation of life is very different in different mechanical pursuits. This not only holds good in regard to the inhabitants of town and country as compared with each other, but likewise of the inhabitants of either engaged in different avocations. Thus Mr. Neison found that while the average expectation of workmen in general at the age of 30 was 36 years; that of miners was but 33, or three years less; of bakers 32, or five years less; of plumbers, painters and glaziers 30 years, or six years less, and of clerks 27, or nine years less.

The observation of Mr. Neison was followed by those of Mr. Ratcliffe, Corresponding Secretary of the Manchester Unity of Odd Fellows, and Mr. Finlaison, Jun., who was employed by the British Government to make his observations. The observations of Neison and Finlaison were based upon returns made, under an Act of Parliament, by the friendly societies; and those of Mr. Ratcliffe upon the sickness among the Odd Fellows. The three form the most reliable data on this subject extant. In this country the Rev. J. D. Williamson of Alabama, has collected the statistics of the operations of disease and mortality among the Odd Fellows for ten years, which, although more defective than the returns previously noted, are yet of much value. A slight effort upon the part of this numerous and widely extended body might furnish a series of statistics, not only of the highest value to themselves, but of the greatest importance to the cause of science.

This institution, (Odd Fellows), resembles in many of its characteristics a vast provident society, but it unfortunately contains in its organization some of the most objectionable features found in beneficial institutions. "It is," says Mr. Williamson, one of its ablest and most philanthropic members, "in its material aspect and monetary arrangements a widely-extended organization, founded upon the principles of guarantyism or assurance, and its practical operations are no more or less than an insurance upon the life and health of its members. Its provisions for the sick are an insurance upon health, and its arrangements for the benefit of widows and orphans are an insurance upon life." This society, according to its last report, numbers upwards 193,000 members, scattered over every portion of our common Union, engaged in multifarious occupations, subject to the influences of town and country life—of Northern and Southern climates, and, in short, to all the modifications which are known to exercise an important influence over health and disease.

It can furnish the experience of nearly 200,000 years of human life in a single year. It can lay its finger upon the precise amount of sickness and mortality that shall occur at every year of age in that vast circle of human experience, and in ten years it can gather a mass of facts and statistics such as is not surpassed in the world. And yet, with these facts before them, and the lively, nay, vital interest which they possess in their correct tabulation; for so certainly as they long neglect this subject, just so certainly is their body doomed to inevitable and speedy dissolution. They have up to the present moment failed to bestow upon this subject that attention which its importance and the interests of humanity demand.

The results of these various observers, although different in detail, have nevertheless some marked points of resemblance. The fol-

lowing table gives, in weeks and decimals of weeks, the average time each member of the societies, which fell under their notice, was sick during one year:

Age.	Sickness in weeks to one year of life. Finlaison.	Neison.	Ratcliffe.	Williamson
25–35	.98	.91	.82	.50
35–45	1.18	1.21	1.10	.71
45–55	1.68	2.02	1.91	1.24
55–65	2.84	4.39	4.62	2.76
65–75	6.76	14.77	10.24	8.29

Now all these observations impress us with the important fact, that the liability to disease increases with great rapidity as life advances, and that while among a given number of persons, whose ages range from 25 to 35, the average amount of sickness in each year is less than one week, among those between 55 and 65, it will have increased to four weeks, and among those who have attained the mature age of 65 to 75, it will have risen to from eight to twelve weeks.

By making a due allowance for superanuation, in which the members are placed upon the sick list, we have still a formidable array of disease in the declining years of life.

My observation would hardly lead me to believe that a similar amount of disease attends the last years of the life of those in more opulent circumstances.

Yet, even here, the same law of increased sickness with advancing years is found without an exception, to obtain. In all this, we cannot fail to remark how constant and uniform nature is to her own laws. When a law of mortality or disease as it affects a certain place is ascertained, it is easy to foreshadow by its aid what will be the probable amount of sickness and mortality among those of each particular age.

No one if in health is enabled to tell whether he will sicken or remain in health during a given period; or, if sickness occurs, whether it will be mortal or result in a restoration to health; much less can an indifferent person single out from a community those against whose breasts the shafts of disease and death will be aimed; but he can determine with considerable certainty the number of persons who will be attacked by disease, the average duration of disease, and the number of cases which will eventuate in health or final dissolution.

Not only does this hold good in relation to disease and mortality, which present themselves as unbidden guests, and will not be denied admission, but also in those things where we are perfectly free to accept or reject. Take for example the case of marriage, usually a matter of pure volition on the part of those contracting its obligations. Here, as in the case of mortality, masses are found to act in obedience to laws, of which they have either no conception, or do not take into account. It is possible for a statistician in advance, not only to determine the number of marriages which will take place in a given population each year, with much exactness, but likewise to say how many of these will be contracted between bachelors and single women—how many between widowers and widows—widowers and single women—widows and bachelors, and old and young persons. Not one of the persons contracting this ceremony does so for the purpose of affecting this general statistical result. Yet, under the influence of the darts of Cupid, they are found to arrange themselves into the aggregate combinations foreshadowed by the man of science.

By far the larger proportion of marriages take place between those never before married, and between the ages of 20 and 25, although the records show some eccentricities which statistics do not pretend to account for—thus we see a youth of 16 marrying a girl of 19, and one of 17 uniting himself to a girl of 14. The oldest couple was a Mr. Calvin Kilburn, aged 91, who led to the altar a blushing bride of 70 years. In 1850 again we find a bachelor of 20 marrying a female over 40; one of 24 marrying a widow of 42; a bachelor of 35 marrying a widow over 60, and another man of 40 wedding a youthful widow of between 75 and 80.

It is obvious that if these laws are uniform, the society which acts in accordance with them will be competent to comply with whatever obligations it assumes, and that the one that disregards them will be like a ship at sea without guide or compass, always in imminent

danger of being stranded upon some hidden rock.

It appears but the part of ordinary prudence for those who are instrumental in founding and governing beneficial societies to ascertain the causes likely to affect them, and to base their future results upon them. Unfortunately such is not the fact; and, as a consequence, their foundations are often unstable and their hopes of usefulness too frequently unreal. Mr. Neison, in order to ascertain the true condition of friendly societies in England, selected at random fifty, in which the total amount of annual contribution for the age of 35 was £1 12s. 3d.; while, in order to supply a benefit of £1 weekly for the period of sickness, which experience showed their members to be liable, the annual contribution should have been £2 7s. 9½d. The inadequacy of such a society to provide for all the benefits its proposes, is evident. "It is a most lamentable condition," he remarks, "in which to find societies aiming at designs so benevolent and praiseworthy."

The importance of this subject in England may be judged from the fact that Mr. Finlaison's tables are calculated upon the returns of 3,787 societies, embracing 542,900 members—and, from estimates by competent persons, it is believed that the number of those who belong to benefit societies throughout the United Kingdom does not fall short three millions. The number in the United States is likewise very great; but what proportion they bear to the entire population, there are no means of ascertaining. It is a matter for consideration whether a subject so closely interwoven with the welfare of a large class of our fellow citizens might not form a legitimate subject of inquiry in our next census.

I have taken some pains to ascertain the condition of friendly societies in this city. The number is large, the membership great, and the dues and benefits in most of them discharged with a praiseworthy regularity; but in none do I find either a correct series of statistics of past operations or a prudential and certain provision for the future. The larger proportion of these societies have been recently organized, few extending back beyond ten or fifteen years, and most of their members are comparatively young men. A society of this kind may survive for twenty-five or thirty years, with all the external appearance of perfect security. Those who manage its affairs finding its income exceeding its expenditure, and a small fund accumulating, are disposed to look upon it as highly prosperous and worthy of all confidence; but, in so doing, they too frequently lose sight of the large increase of expenditure, which the inevitable infirmities of its older members will sooner or later require at its hands. The two oldest and apparently best conducted beneficial societies in the city are the Tailors' Benevolent Society, about twenty-five years old, and the Typographical Society, founded in 1809. Neither of these societies has an accumulated fund for future use beyond two or three thousand dollars. Hitherto they have been enabled to discharge their assumed obligations by the falling off of many old members, from various causes, before they become burdensome by the natural march of infirmity, and the accession of young and vigorous members; but these chance contingencies cannot be supposed always to act in their favor, and the time may soon arrive when the increase of sick allowances will far exceed the income from the weekly stipend paid by their members.

So long as an influx of young members continues, the funds may appear to maintain a position of apparent prosperity; but when the members shall have passed the meridian of life, and have begun to experience the infirmities of years, the stability of these societies will come to be fairly tested.

The almost invariable practice is to admit members of every age, not excluded by their age from admission at all, upon the same terms. This is clearly unfair to the younger members, who have not only a large amount of vitality and probable exemption from disease, but will be obliged to delay the reception of their benefits until the society may be in no condition to respond to them. All the contingencies of

profit and loss are in favor of the older members and against the younger ones; and it seems but reasonable that the scale of admissions and weekly dues should be graduated with reference to this disparity.

The importance of this subject not only to those who are the immediate recipients of the benefits, but to those whose duty it is to provide for the indigent, when unable to provide for themselves, cannot well be over estimated. The highest legislative capacity, in the most civilized nations of the world, has always been directed to subjects akin to this. A remarkable feature of our own legislation is that matters of this kind seldom burden our statute book, or the thoughts of our grave legislators.

When the Statistical Congress recently assembled at Brussells, royalty felt itself honored by entertaining the learned men gathered from every part of Europe at a regal banquet. At a meeting of the Association for the Advancement of Science held a few years since, at Washington, the President of our own Republic permitted them to assemble and depart without any official or social acknowledgment of their presence.

I allude to these facts for the purpose of showing how little aid can be expected from our own general or municipal governments, until forced to consider these subjects by a pressure from without, which they will find themselves unable to resist; and to urge upon this Society, whose members are influenced by loftier motives and more disinterested zeal than is now found in our legislative halls, to take this important subject into their respectful consideration. Secure to the laboring classes a safe investment for the money appropriated by them to provide for future sickness, and you will diminish in like proportion the sum required to be paid for the maintenance of pauperism. Let these sums be frittered away in unsubstantial foundations, and pauperism and its associate charges must inevitably increase.

The American Geographical and Statistical Society cannot be more usefully employed than in elucidating the questions which form the subject of this paper.

WHITE POPULATION OF S. CAROLINA.

A decennial State census has been taken since 1809, with the following results:

	Total.		Total.
1809	217,482	1839	257,117
1819	231,828	1849	280,585
1829	250,943	1859	304,112

	Increase	
	Absolute.	Ratio. p. c
1809–19	14,346	6.59
1819–29	19,115	8.24
1829–39	6,174	2.46
1839–49	23,468	9.12
1849–59	23,527	8.39

—And the following is given as the early enumerations of the white population in 1670, 150; in 1700, 5,500; in 1723, 14,000; in 1734, 7,233; in 1765, 40,000; in 1773, 65,000: in 1792, 146,178, and in 1800, 196,255.

PORK TRADE OF INTERIOR STATES.

The pork trade has become one of vast importance and is yearly increasing. It is chiefly carried on in the States immediately bordering on the Ohio and Mississippi Rivers. The number of hogs annually slaughtered is now nearly two millions and a half; in 1857–8, it was 2,208,975, and in 1858–9, 2,436,863, showing an increase in the latter on the former year of over 10 per cent. The slaughter returns for the States severally are as follows:

	1857–8			1858–9		
	Number of hogs.	Aver'e wgt. lbs.	Yields of lard, lbs.	Number of hogs.	Aver'e wgt. lbs.	Yields of lard. lbs.
Ohio	610,000	241	28	624,109	196	23
Indiana	441,885	202	31	407,636	186	22
Illinois	463,577	202	37	596,136	183	27
Wisconsin	16,000	235	30	32,702	230	28
Iowa	85,583	199	39	158,217	173	22
Missouri	176,386	202	27	155,774	174	23
Kentucky	372,609	212	31	397,117	217	33
Tennessee	42,875	213	37	65,172	218	39

From this table, however, it is evident that although the number of hogs slaughtered was so much in advance of the slaughter of the preceding year, the products were not commensurately increased, as both the average weight and the yield of lard were much less per hog. As regards the average weight there was an increase in the latter year of about 6 per cent., and as regards the falling off in the lard it has been nearly 5 lbs. per hog. The returns above given embrace 179 places at which hogs were slaughtered.

XUM

STATISTICAL REPORT OF THE SONS OF TEMPERANCE OF NORTH AMERICA,*

Being a Synopsis of Returns of Grand Divisions of the Order, for the term beginning January 1st, 1858, and ending December 31st, 1858, both days inclusive:

Grand Divisions.	No of Divisions.	Admitted.	Suspended.	Expelled.	Deaths.	Violated Pledge.	Re-instated.	Violated Pledge 2d time.	Contributing Members.	Divisions Accept'g Lady Visitors.	Lady Visitors.	Cash Received.	Paid for Benefits.	Cash on Hand and Invested.
E. N. York	33	376	98	132	9	68	32	20	1,254	14	392	$4,639	$2,034	$16,590
W. N. York	49	672	233	193	11	118	47	24	1,314	24	1,027	1,064	900	4,695
New Jersey	36	192	77	150	6	48	31	15	1,210	4	100	3,237	1,266	9,587
Maryland	46	627	152	145	11	128	261	9	2,015	34	962	5,733	2,204	25,493
Pennsylvania	74	1,475	90	304	19	138	17	29	3,899	28	..	13,257	4,586	20,115
Connecticut	4	23	9	18	1	5	2	..	200	4	75	669	344	3,119
Massachusetts	88	5,496	256	199	14	235	137	32	6,261	78	5,963	16,879	2,323	9,352
Virginia	234	3,532	334	1,152	77	1,150	455	148	6,483	116	..	14,472	7,219	29,082
Maine	67	1,310	177	191	7	101	44	..	2,661	40	1,609	2,805	292	1,598
Ohio	126	2,110	224	481	34	417	201	73	3,859	81	3,377	5,547	779	9,592
Delaware	4	9	..	4	..	4	2	..	118	..	..	291	81	1,357
Indiana	75	2,220	336	382	28	377	145	38	2,430	50	1,200	6,889	334	7,000
Tennessee	45	605	30	153	15	195	65	17	1,800	..	..	1,876	282	4,310
N. Carolina	71	1,123	212	502	23	438	301	257	2,383	65	1,200	1,077	375	5,987
Kentucky	50	350	229	356	15	272	93	30	1,312	35	..	1,420	231	6,133
Georgia	31	290	..	38	13	43	11	9	661	..	..	737	58	1,955
Illinois	64	1,731	294	296	22	314	79	43	2,851	..	1,183	6,914	273	2,188
Rhode Island	13	241	9	78	6	72	23	41	560	12	432	130	61	1,106
Missouri	56	1,811	287	273	16	321	89	20	2,042	34	810	1,088	323	5,229
N. Hamp	6	70	..	..	..	..	..	..	106	2	33	..	..	..
Lousiana	8	151	75	84	8	41	24	23	279	..	..	1,268	314	2,495
S. Carolina	57	979	172	257	17	176	56	26	1,751	16	452	2,968	91	1,822
Alabama	8	149	25	58	3	56	31	11	235	3	..	582	..	4,830
N. Brunswick.	89	1,361	116	447	20	292	154	51	5,751	33	735	6,734	1,364	10,556
Misssissippi	14	102	6	133	3	133	42	14	617	3	..	192	125	4,955
Iowa	11	218	149	28	1	22	8	1	344	..	..	534	12	189
Wisconsin	8	93	33	16	1	11	6	3	197	8	..	126	6	146
N. Scotia	18	1,984	298	640	14	274	141	75	3,491	50	854	6,318	1,317	5,589
Vermont	10	253	24	18	4	13	6	..	478	5	113	751	38	2,571
Texas	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arkansas	50	228	32	67	6	63	28	9	579	25	..	445	10	232
Florida	11	242	5	87	2	125	26	9	1,385	8	..	769	84	3,508
Pr. Ed. Isl'd	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canada W.	335	4,018	2,220	2,055	47	1,135	416	113	10,479	129	3,468	13,728	784	23,582
Newfound.	1	14	..	22	..	10	1	..	104	1	3	576	42	1,000
California	75	1,850	546	586	23	510	189	70	2,033	60	..	15,890	2,426	32,919
Canada E	15	466	188	133	4	89	47	15	667	..	..	1,323	50	1,222
E. Tenn	13	199	93	59	5	68	25	6	392	..	..	402	75	454
S. Kentucky	63	757	177	222	10	266	88	74	3,580	63	..	918	3,615	5,915
Oregon	21	160	..	27	..	23	10	2	650	21	..	1,200	..	400
Wash. Ter	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	1,985	37,987	7,206	9,986	495	7,752	3,353	1,307	76,422	1,046	23,988	$146,448	$34,317	$285,876

LOMBARDY.

It is not without interest to estimate the pecuniary loss which Austria will suffer from giving up Lombardy. This province, which has a superficies of 8,331 square miles, contains 3,009,505 inhabitants. It has contributed to the total receipts of Austria, in direct and indirect taxes, which in 1856 amounted to 335,976,150 florins, a sum of 36,185,631 florins. That part is proportionably very considerable; for whilst in the whole monarchy the tax is on an average of 8 fl. 53 kr. per head, it amounts in Lombardy on an average to 12fl. 28 kreutzers.

* An Abstract from the Journal of the Proceedings of the National Division of the Sons of Temperance of North America; 16th Annual Session, held at Philadelphia, June, 1859.

Both in an agricultural and industrial point of view Lombardy was one of the richest provinces of the monarchy. The value of landed property is officially estimated, according to the net produce, at a capital of 1,054,722,666 florins, and the value of the soil only at 159,409,925 florins. The annual industrial revenue of the Lombards, among whom the lists of the contributors reckon 7,304 dealers and manufacturers, 1,216 hawkers, 60,700 workmen in factories, 56,388 servants, and 357,489 journeymen, is estimated at 61, 858 florins. The Austrian florin is worth about 50 cents of our money.

ECUADORIAN DEBT.

The debt of Ecuador to the British public amounts to £1,824,000, bearing a minimum interest of one and a maximum of six per cent. For the due payment of the interest one-fourth of the customs receipts of Guayaquil have been specially hypothecated. The bondholders have lately memorialized the Foreign office to interfere in protecting their interests, viewing the blockade of that port by the Peruvians as a serious confiscation of their property, and the Minister has promised to pay due attention to the subject.

From the same memorial we learn that the Ecuadorian Government has adjudicated to the British bondholders 4,500,000 acres of land, in payment of £566,600, being part of the debt, and issued therefor 5,666 land warrants of £100 each. These lands consist of five distinct assignments, three of which—the Pailon, Atacames, and Molletura—are situated west of the Cordillera, and two—the Camelos and Gualaquira—lie to the eastward of these mountains. The holders of the land warrants have formed themselves into a company, and had in view the immediate occupation of the lands.

But to this arrangement the Peruvian Government objects, and it would appear that the proceedings of the Equadorian authorities in this matter are the pretext for the present war. Peru claims the lands sequestered as a part of her own domain; and, furthermore, has become jealous of British influence on the Amazon.

Should it be the intention of the British Government to interfere in this affair, we may anticipate difficulties on the western coast, in which our Government may have a word or two on the subject of American interests, as our commerce in these regions has of late years become somewhat extensive, and will in the future seek a magnificent development.

COAL TRADE OF WESTERN PENNSYLVANIA.

The bituminous coal trade of Western Pennsylvania is rapidly assuming a magnitude of which few are aware.

The Pennsyvania Railroad carried during the year 1858 no less than 187,535 tons, viz.; from Blairsville 4,560 tons, from Latrobe 18 tons, from Manor Station 16,967 tons, from Irwin's 59,278 tons, from Larimer's 44,409 tons, from Brinton's 296 tons, and from Wilkinsburg 62,007 tons, and delivered at Philadelphia 73,915 tons, at Pittsburg 98,542 tons, and at way stations 14,078 tons. This exhibit does not include 80,000 tons used by the railroad company, nor does the report state where that quantity was obtained.

During the same year the Pittsburg and Connellsville Railroad carried 7,902 tons, and the Alleghany Valley Railroad 20,622 tons; while the Monongahela Navigation carried 25,696,669 bushels, and the product of the mines below the Navigation amounted to 3,291,666 bushels.

Reducing the tons to bushels at the rate of 26½ to the ton, the aggregate coal trade of the Pittsburg district may be set forth as follows:

Carried by Pennsylvania Railroad	4,969,677	bush
Used by do.	2,120,000	"
Carried by Pittsburg and Conn. RR	209,404	"
Carried by Alleghany Valley RR	546,483	"
Carried by Mononghahela Navigation	25,296,669	"
Products of other districts	3,291,666	"
Total Pittsburg and vicinity	36,833,892	bush.

Valued at 5 cents a bushel, this amount would net $1,841,694; but on the average it must sell at a higher price, and, therefore, we may safely set down this trade in its present state of development as worth two millions of dollars a year.

WHEAT CROP OF THE UNITED STATES.

The wheat crop of 1859 has generally been harvested throughout the country, and sufficient is known to make a careful estimate of this important staple, interesting for present consideration and important for future reference. This has been done by the New York *Courier*. Compared with 1858, the estimate is as follows:

State.	1858—Bush.	1859—Bush.
New York	20,000,000	22,000,000
Pennsylvania	20,000,000	25,000,000
Virginia and N. Carolina	18,500,000	20,000,000
Kentucky	18,500,000	11,000,000
Ohio	22,000,000	26,000,000
Indiana	13,000,000	17,000,000
Illinois	14,500,000	20,000,000
Other States	42,000,000	60,000,000
Total	158,500,000	201,000,000

The production in the Western States, which have the largest surplus for export, is shown by the following figures:

State.	1858—Bush.	1859—Bush.
Kentucky	8,500,000	11,000,000
Ohio	22,000,000	26,000,000
Indiana	13,000,000	17,000,000
Illinois	14,500,000	20,000,000
Total	58,000,000	74,000,000

The surplus for the present year in these States may be estimated as follows:

	Bush.
Crop 1859	74,000,000
Consumption 5 bush per head	36,000,000
Surplus crop 1859	38,000,000

It is estimated that in addition to this, from one-sixth to one-fifth of the surplus crop of 1858 is yet in the hands of the producers. We therefore have in the States, estimating last year's surplus crop of the West at twenty-four millions of bushels, as the gross:

	Bush.
Surplus crop of 1859	38,000,000
Sixteen ½ per cent on 1858	4,000,000
Total for export	42,000,000

The total transportation of this at forty cents per bushel will give nearly seventeen millions of dollars to our canals and railroads.

ENGLISH COPPER MINES.

From *Grylls's Annual Mining Sheet*, we condense the following interesting statistics of the Copper Mines of Cornwall, for the year ending June 30th, 1859:

About 120 mines in Cornwall sent copper to the "ticketing," or sales, during the year, making a total of 183,944 gross tons, of 21 cwt. each. The mine sending the largest quantity was the "Devon Great Consols," which turned out 23,748 gross tons; the "United Mines" turned out 9,815 tons; "West Basset' 7,036 tons, and "West Seton" 6,205. Five other mines exceeded 5,000 tons each, three over 4,000 tons each, six over 3,000 tons each, seven over 2,000 tons each, twenty-one over 1,000 tons each, and the balance ranging from 120 to 900 tons each.

The highest average price for ore sold during the year was that of the "Grambler and St. Aubyn" mine, £17 2s. The total amount received for the ore sold was £1,079,075 17s., or over five and a quarter million dollars. The average price of the ore sold was £5 17s. 6d. The ore produced 11,888 tons fine copper, the average standing price of which was £133 6s. The average produce of the ore was 6⅜ per cent. of fine copper.

We give below a table of the copper ores raised and sold in Cornwall during the past twenty years, showing the number of gross tons sold, the total amounts for which it sold, the per centage of fine copper produced, and the average value of the standard copper:

Date.	Ore (21 cwts.)	Money. £	Produce.	Standard. £	s.
1840	147,266	792,758	7½	108	10
1841	135,090	819,900	7⅜	119	6
1842	135,581	822,876	7¼	120	16
1843	144,806	804,445	7½	110	1
1844	152,667	815,346	7⅜	109	17
1845	157,000	835,350	7½	103	10
1846	158,913	886,785	7¼	106	8
1847	148,674	830,739	8	103	12
1848	155,616	825,080	8¼	97	7
1849	144,983	716,917	8¼	92	11
1850	150,890	814,037	7¾	103	19
1851	154,299	808,244	7⅞	101	0
1852	152,802	828,057	7⅝	106	12
1853	180,095	1,124,561	6⅝	136	16
1854	180,687	1,153,756	6½	140	2
1855	188,969	1,212,686	6½	141	10
1856	209,305	1,233,639	6⅜	140	0
1857	198,697	1,276,844	6½	139	6
1858	183,297	1,083,728	6⅝	135	1
1859	183,944	1,079,075	6⅜	133	6

COMMERCE OF CANADA.

An abstract from the tables of "Trade and Navigation," exhibiting the results for the ten years ending 31st December, 1858:

1. Value of Imports into Canada.

Years.	Classification of Imports					Duties Collected	Countries of Origin				
	Paying ad valorem duties.	Paying specific duties.	Entered duty free.	On goods paying ad valorem.	On goods paying specific.	Total duties collected.	United Kingdom.	British West Indies.	British North America.	United States.	Other foreign countries.
1849.....	$8,793,793	2,097,624	938,801	1,085,886	692,303	1,778,189	6,676,011	14	195,655	4,971,420	167,298
1850.....	13,185,751	2,619,784	1,176,533	1,528,435	934,146	2,462,583	9,631,921	4,452	335,620	6,594,560	365,215
1851.....	16,651,062	2,973,044	1,810,685	1,911,763	1,037,993	2,949,756	12,048,132	13,626	436,972	8,365,765	570,296
1852.....	15,725,116	3,313,525	1,247,851	1,760,865	1,196,189	2,957,054	10,671,132	5,115	450,964	8,477,693	651,593
1853.....	26,034,359	4,171,164	1,775,912	2,790,096	1,324,611	4,114,707	18,489,121	3,478	632,661	11,782,147	1,074,029
1854.....	32,951,198	4,764,383	2,813,744	3,360,637	1,536,368	4,899,005	22,963,330	2,672	675,115	15,533,098	1,355,109
1855.....	19,971,470	5,929,163	10,355,536	2,216,315	1,309,467	3,525,782	13,303,460	14,136	865,988	20,828,676	1,073,909
1856.....	24,048,979	7,543,641	11,991,767	2,972,971	1,535,911	4,508,882	18,212,934	17,613	1,032,595	22,704,509	7,616,736
1857.....	21,494,491	5,538,203	12,407,904	2,882,267	1,042,784	3,925,051	17,559,025	26,823	751,868	20,224,651	868,211
1858.....	14,903,668	5,801,245	8,373,014	2,106,429	1,274,960	3,381,389	12,287,053	....	423,826	15,635,565	732,083
Av'ge. 10 yrs.	19,373,607	4,475,177	5,292,236	2,261,567	1,138,674	3,450,241	14,184,212	8,793	568,127	13,511,838	847,448
Av. 1st 5 yrs.	16,114,052	3,035,027	1,399,956	1,815,409	1,037,049	2,852,458	11,503,264	5,337	426,379	8,038,377	565,687
" 2d 5 "	22,631,961	5,915,327	9,194,513	2,707,724	1,340,293	4,048,022	16,865,160	12,249	749,862	18,985,300	1,129,310

Years.	Duties Collected	Countries of Origin				
	Total value of goods imported.	United Kingdom.	British West Indies.	British North America.	United States.	Other foreign countries.
1849.....	12,010,398	9,617,594	14	205,358	1,510,975	582,655
1850.....	16,982,068	13,626,560	4,452	620,358	2,208,250	1,769,880
1851.....	21,434,791	16,826,132	13,626	972,084	3,265,014	1,769,880
1852.....	20,296,492	16,737,277	5,115	1,219,545	2,208,250	1,769,880
1853.....	31,981,436	25,533,098	3,478	1,355,109	3,265,014	1,769,880
1854.....	40,529,325	32,704,509	2,672	1,073,909	7,616,736	1,769,880
1855.....	36,086,169	29,828,676	14,136	865,988	4,584,387	1,769,880
1856.....	43,584,387	32,704,509	17,613	1,032,595	7,616,736	1,769,880
1857.....	39,430,598	26,823	751,868	20,224,651	868,211	1,769,880
1858.....	29,078,527	423,826	15,635,565	732,083	1,769,880	1,769,880
Av'ge. 10 yrs.	29,140,419	847,448	13,511,838	8,038,377	565,687	20,539,037
Av. 1st 5 yrs.	20,539,037	749,862	18,985,300	1,129,310	37,741,801	
" 2d 5 "	37,741,801					

2. Value of Exports from Canada.

Years.	Classification of Exports					Countries of Destination					Custom'y Additions	
	Products of the mine.	Products of the sea.	Products of the forest.	Animals and products of animals.	Vegeta'e food and other vegetable products.	Manufact'res.	Miscellaneous merchandise.	United Kingdom.	British West Indies.	British North America.	United States.	Other foreign countries.	For vessels built at Quebec and exported.	For undervaluation at inland ports, 20 p. c.	Total Value of exports.
1849.....	....	23,222	5,310,152	417,544	3,296,433	120,338	152,871	5,393,696	14,368	466,328	3,429,769	6,100	1,362,721	684,837	11,357,818
1850.....	$36,583	146,052	5,442,937	630,321	4,237,896	26,708	159,496	4,803,400	8,376	808,776	4,951,160	108,291	1,251,720	982,084	12,943,795
1851.....	86,755	249,296	6,063,516	887,518	3,504,421	55,127	151,887	6,021,401	3,912	1,037,509	4,071,544	164,144	1,666,200	845,884	13,810,604
1852.....	33,576	297,849	6,576,339	1,185,719	4,725,457	79,133	107,501	5,706,457	13,961	812,139	6,284,522	188,495	1,050,400	1,251,632	15,307,606
1853.....	109,357	340,003	9,421,020	1,370,525	8,086,554	140,426	63,294	8,964,658	20,183	1,390,465	8,936,382	209,791	2,490,750	1,780,073	23,801,302
1854.....	298,923	349,711	9,991,367	833,273	7,363,052	168,749	44,984	8,668,464	8,989	1,529,275	8,640,002	185,329	2,208,250	3,769,880	23,019,189
1855.....	125,835	459,920	7,947,923	1,595,184	13,030,400	476,077	68,563	5,518,806	3,749	1,023,447	16,737,277	420,533	1,219,545	3,265,014	28,188,461
1856.....	165,648	456,347	10,019,982	2,264,059	14,972,276	373,628	43,198	9,254,666	10,803	1,096,041	17,979,764	263,775	1,213,078	2,238,900	32,047,017
1857.....	286,469	540,113	11,730,387	2,107,240	8,882,825	398,821	121,120	9,718,601	....	875,329	13,206,436	266,699	1,263,444	1,556,205	27,006,625
1858.....	314,823	718,296	9,447,729	2,462,765	7,904,400	325,376	112,538	8,184,971	....	960,428	11,930,094	240,432	743,640	1,443,044	23,472,609
10 yrs.	161,996	358,081	8,194,325	1,405,184	7,629,401	216,538	92,545	7,222,521	8,434	997,965	9,617,594	205,358	1,510,975	1,582,655	21,145,502
1st 5 "	66,568	211,264	6,563,193	897,965	4,628,212	84,346	107,010	6,181,922	12,161	901,045	5,534,675	135,362	1,668,368	1,110,702	15,544,225
2d 5 "	238,339	504,778	9,825,457	1,912,504	10,430,591	348,730	78,080	8,263,119	4,706	1,094,886	13,700,513	275,354	1,353,592	2,054,608	26,746,780

EXPORTS OF OHIO.

The Commissioner of Statistics gives in the annexed statement the quantity of each of the agricultural products of the State of Ohio exports in the commercial year 1857–8:

Articles.	Exp'd by RR.	Exp'd by Lake.	Exp'd by R'v'r.	Agg'e ex.
Flour, bbls	1,097,582	475,927	227,470	1,860,979
Wheat, bush	....	2,607,113	....	2,607,113
Other grain, bush	956,595	1,990,667	40,000	2,987,262
Whisky, bbls	142,370	53,581	181,556	377,507
Alcohol, bbls	....	....	59,071	59,071
Beef, bbls	6,000	227	14,202	20,427
Pork and bacon, bbls.	361,541	7,616	96,200	464,457
Lard, bbls	65,000	720	18,475	84,175
Lard Oil, lbs	5,000	....	40,525	45,525
Butter, lbs	7,292,719	18,680	1,424,725	8,735,124
Cheese, lbs	3,541,337	11,795	3,180,000	6,736,122
Candles, boxes	....	33,560	155,257	156,096
Soap, boxes	....	850	51,708	52,558
Tallow, lbs	....	303,760	460,800	764,560
Grease, lbs	....	....	740,600	740,600
Cattle, No	118,000	....	....	118,000
Horses, No	6,000	....	2,400	7,400
Hogs, No	341,595	....	....	341,595
Sheep, No	220,657	....	....	220,607
Wool, lbs	1,321,397	....	919,376	7,572,763
Coal, bush	5,332,000	5,600,000	3,000,000	8,600,000
Tobacco, hhds	20,345	750	205	20,925
Eggs, bbls	....	1,000	17,000	18,000

ALBANY LUMBER TRADE.

Albany, New York, is one of the largest lumber markets of the Union. The following table exhibits the receipts during the years named:

	Boards of scantling, ft.	Shingles, M	Timber cub. ft.	Staves, lbs.
1850	216,791,890	33,226	28,832	150,515,280
1851	200,238,003	34,136	110,200	115,087,290
1852	317,135,620	31,636	291,714	107,961,289
1853	393,726,073	27,586	19,916	118,666,750
1854	311,571,157	24,003	28 909	134,805,091
1855	245,921,652	57,210	21,104	140,255,225
1856	223,345,545	36,899	14,533	102,548,492
1857	180,097,629	71,004	85,104	153,264,629
1858	267,406,411	31,823	119,497	135,011,817

—the value of which in the same years was as follows:

1850	$3,251,878	$119,791	$4,325	$677,319
1851	4,119,568	121,524	19,010	546,665
1852	5,495,960	110,726	52,509	507,418
1853	6,299,617	99,585	3,386	569,600
1854	4,985,139	86,891	6,649	611,123
1855	4,426,589	228,840	4,854	631,149
1856	3,573,520	129,147	2,616	461,468
1857	2,881,560	248,515	15,218	689,691
1858	4,412,205	111,383	20,314	540,047

HOW MUCH CAN PEOPLE PAY ANNUALLY FOR THE TRANSPORTATION OF PERSONS AND PROPERTY?

In the construction of a railroad, or of a system of railroad, a lucrative business is assumed as a matter of course. Our people never stop to consider whether there must not be a limit to the ability of a people to contribute to the support of such works—a necessary relation between their number and the extent of their commerce—and whether all beyond a certain outlay for works of improvement must not remain without adequate employment.

What is the extent of the contributions that a community can make toward the support of railroads? The people of Massachusetts pay more to these works than any other community in the world. The receipts of her roads compared with her population for nine years past have been as follows:

	Earnings.	Population.
1850	$7,089,159	973,654
1851	7,281,346	1,005,397
1852	7,713,208	1,037,140
1853	8,966,441	1,068,883
1854	9,973,377	1,100,626
1855	10,100,914	1,132,369
1856	10,884,667	1,164,112
1857	10,583,574	1,195,855
1858	9,522,968	1,227,598

The above statement shows the ratio of earnings of railroads in Massachusetts to be very nearly nine dollars to each person.

In England and Wales, the largest earnings for any one year, 1858, were $97,862,781, for a population of about 19,100,000, giving a ratio of $5.12.5. to each person.

The earnings of the railroads of New York for 1856 were $21,289,340. Population for the same year, 3,550,000. Ratio of earnings to population, $6.

New England has a railroad system peculiar to itself. Only a very small portion of its receipts is contributed by the people of other States. The earnings of its roads for 1856 were $18,657,273: its population very nearly 3,100,000: ratio of earnings to population the same as in New York, $6 per head.

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